

This listing of claims will replace all prior versions of claims in the application.

Claim 1. (previously presented) A coated substrate comprising:

- a) an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;
- b) a photoresist composition coating layer over the underlayer composition, the photoresist comprising a photoactive component and an Si-containing component.

Claim 2. (previously presented) The coated substrate of claim 1 wherein the underlayer composition comprises an integral component that comprises both i) aromatic and/or alicyclic groups and ii) chromophore groups.

Claim 3. (previously presented) The coated substrate of claim 1 wherein the underlayer composition comprises a first component that comprises aromatic and/or alicyclic groups and a second component distinct from the first component that comprises chromophore groups.

Claim 4. (currently amended) The coated substrate of claim 1 ~~any one of claims 1 through 3~~ wherein the chromophore groups comprise anthracene groups.

Claim 5. (currently amended) The coated substrate of claim 1 ~~any one of claims 1 through 4~~ wherein the underlayer composition component that comprises aromatic and/or alicyclic groups comprises optionally substituted phenyl groups, optionally substituted naphthyl groups, optionally substituted adamantyl groups, optionally substituted norbornyl groups, or optionally substituted isobornyl groups.

Claim 6. (currently amended) The coated substrate of claim 1 ~~any one of claims 1 through 5~~ wherein the underlayer composition comprises a mixture of at least two distinct resins.

Claims 7-21. (cancelled)

Claim 22. (previously presented) A method for forming a photoresist relief image comprising:

a) applying an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;

b) applying a photoresist composition coating layer over the underlayer composition, the photoresist composition comprising a photoactive component and an Si-containing component.

Claim 23. (previously presented) The method of claim 22 wherein the photoresist layer is exposed to radiation having a wavelength of less than 300 nm.

Claim 24. (previously presented) The method of claim 22 wherein the photoresist layer is exposed to radiation having a wavelength of about 248 nm.

Claim 25. (currently amended) The method of claim 22 ~~any one of claims 22 through 24~~ wherein the underlayer composition is thermally treated prior to applying the photoresist composition.

Claim 26. (currently amended) The method of claim 22 ~~any one of claims 22 through 25~~ wherein the underlayer composition is crosslinked prior to applying the photoresist composition.

Claim 27. (currently amended) The method of claim 22 ~~any one of claims 22 through 26~~ wherein the underlayer composition comprises an integral component that comprises both i) aromatic and/or alicyclic groups and ii) chromophore groups.

Claim 28. (currently amended) The method of claim 22 any one of claims 22 through 26 wherein the underlayer composition comprises a first component that comprises aromatic and/or alicyclic groups and a second component distinct from the first component that comprises chromophore groups.

Claim 29. (currently amended) The method of claim 22 any one of claims 22 through 28 wherein the chromophore groups comprise anthracene groups.

Claims 30-50. (cancelled)

Claim 51. (previously presented) An article of manufacture comprising a substrate having coated thereon a multilayer photoresist system, the system comprising:

- a) an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;
- b) a photoresist composition coating layer over the underlayer composition, the photoresist comprising a photoactive component and an Si-containing component.

Claim 52. (previously presented) The article of claim 51 wherein the substrate is a microelectronic wafer substrate, an optoelectronic device substrate or a waveguide.

Claim 53. (previously presented) An underlayer composition for use with an overcoated silicon-containing photoresist, the underlayer composition comprising:
a first resin that comprises phenolic groups, and a second resin that comprises anthracene groups.

Claim 54. (previously presented) The underlayer composition of claim 53
wherein the first resin is a novolak resin or a poly(vinylphenol) resin.

Claims 55-59. (cancelled)